

METHOD FOR GROWING COMPOUND SEMICONDUCTOR CRYSTAL

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Patent Number: JP3023294
Publication date: 1991-01-31
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Requested Patent: ☐ JP3023294
Application Number: JP19890155875 19890620
Priority Number(s):
IPC Classification: C30B25/18; H01L21/205
EC Classification:
EC Classification:
Equivalents:

Abstract

PURPOSE: To enable satisfactory epitaxial growth of an atomic layer at a low temp. and to form a steep hetero interface by feeding at least one of the constituent elements of a compd. semiconductor as an alkyl compd. and carrying out epitaxial growth of an atomic layer on a specified face of a substrate.

CONSTITUTION: When a compd. semiconductor crystal is grown on a substrate of a compd. semiconductor such as GaAs by epitaxial growth of an atomic layer, at least one of the constituent elements of the compd. semiconductor to be grown is fed as a gaseous alkyl compd. such as $(C_2H_5)_3Ga$ and the (110) face of the substrate is used as the growth surface. Since a Ga atom bond to three As atoms on the growth surface of the substrate and has only one dangling bond, only one atomic layer can be adsorbed with the $(C_2H_5)_3Ga$ and epitaxial growth of the atomic layer is enabled.